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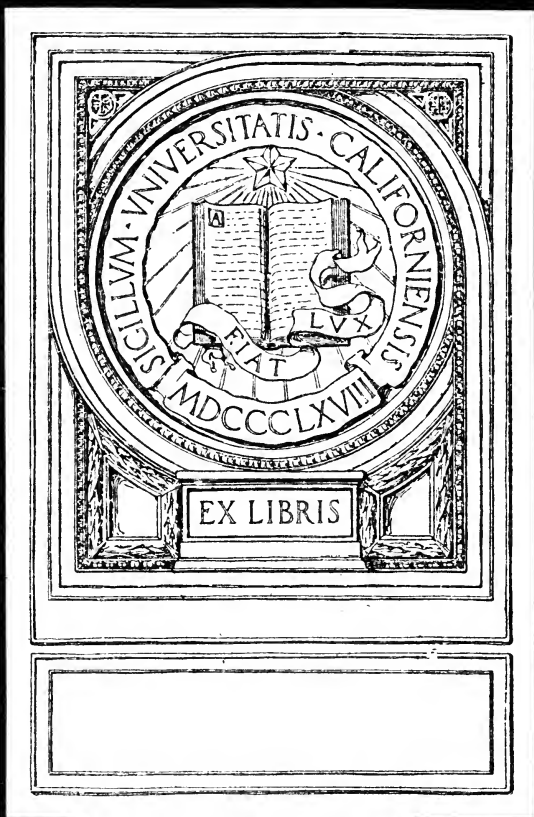
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1913

TOWN PLANNING

FOR

DOVER, N. J.

REPORT TO THE

MAYOR AND COMMON COUNCIL

BY

ARTHUR COLEMAN COMEY

1913

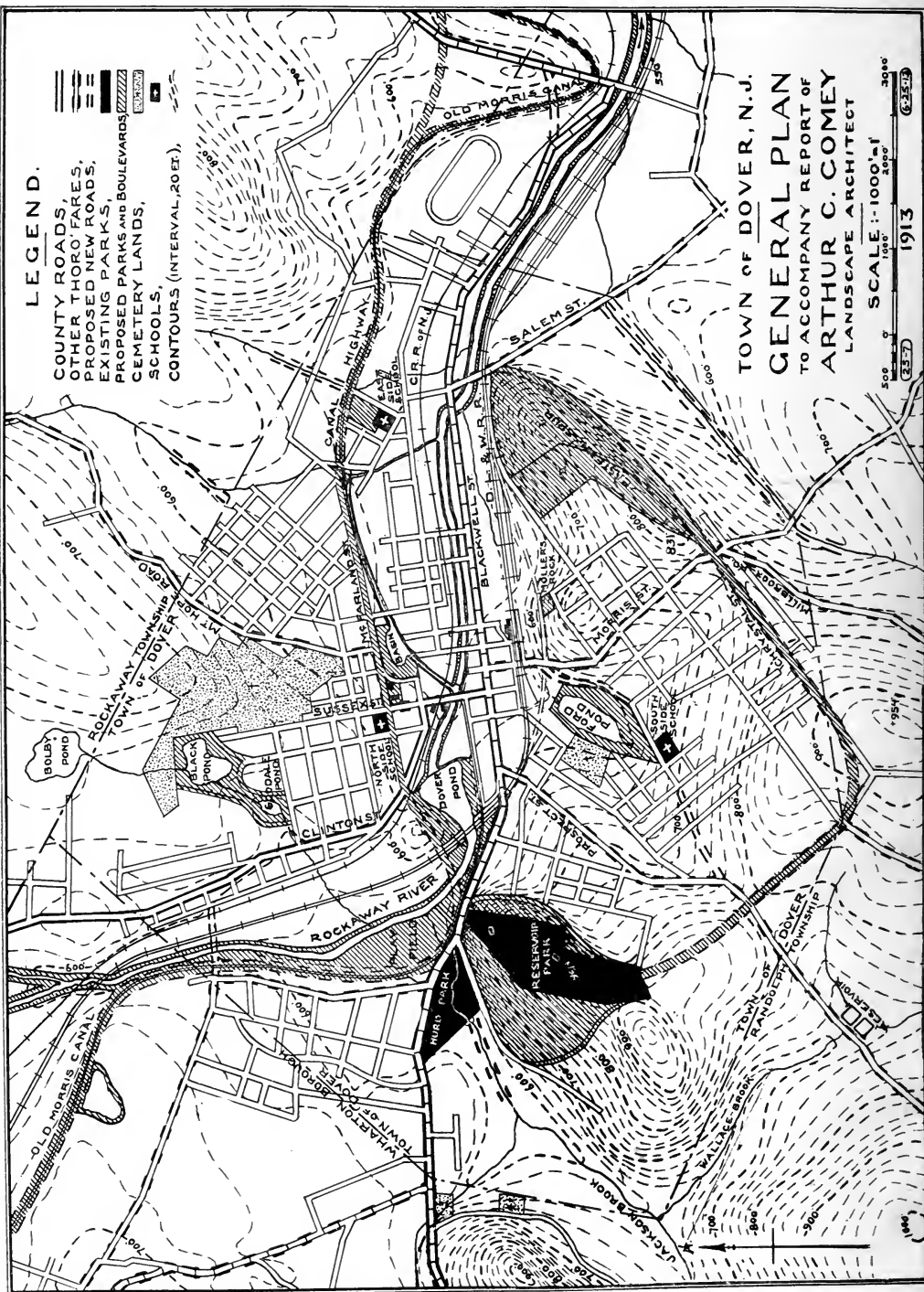
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LEGEND.

- COUNTY ROADS,
- OTHER THORO'FARES,
- PROPOSED NEW ROADS,
- EXISTING PARKS,
- PROPOSED PARKS AND BOULEVARDS,
- CEMETERY LANDS,
- SCHOOLS,
- CONTOURS (INTERVAL 20 FT.).



TOWN OF DOVER, N.J.
GENERAL PLAN
TO ACCOMPANY REPORT OF
ARTHUR C. COMEY
LANDSCAPE ARCHITECT

SCALE 1:1000
100' 200' 300'
1913
G. S. D.

TOWN PLANNING

FOR

DOVER, N. J.

REPORT TO THE

MAYOR AND COMMON COUNCIL

BY

ARTHUR COLEMAN COMEY

(Mem. Am. Soc. Landscape Architects)

1913



PRINTERS
MAGUIRE & POWERS
DOVER, N. J.

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ARTHUR C. COMEY
LANDSCAPE ARCHITECT
CONSULTANT ON CITY PLANNING
HARVARD SQUARE, CAMBRIDGE, MASS.

July 12th, 1913.

To the Hon. the Mayor, Recorder,
Alderman, and Common Council,
Dover, N. J.

Gentlemen :—

I beg to submit herewith report on the Town Plan of Dover, undertaken in accordance with resolution of Council passed April 28th, 1913.

This report embodies the results of several weeks careful study of the problems involved, blocking out the field, planning in detail those improvements capable of immediate accomplishment, and especially outlining the ways and means for carrying out comprehensive town planning in the future.

Respectfully submitted,

(Signed) Arthur Coleman Comey.

DIAGRAMS and PLANS

	PAGE
General Plan for Dover	Front
Proposed Cross-Sections for Streets and Boulevards	8
Sketch Plan for a Town Centre	24



GENERAL VIEW OF DOVER FROM EASTERN ROCKY SPUR
This cutlock should be dedicated permanently for public use



IN HAMPSTEAD GARDEN SUBURB, ENGLAND
Ten houses per acre, harmoniously designed and set well apart, forming artistic street views

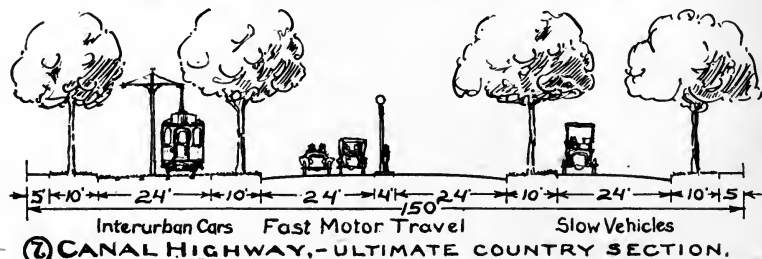
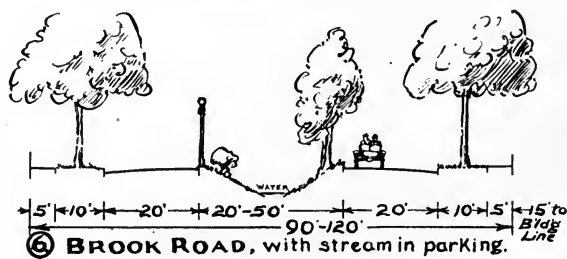
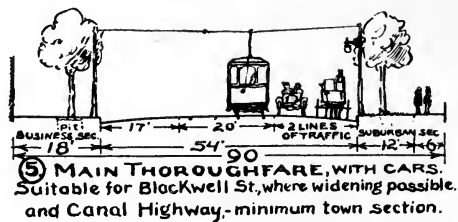
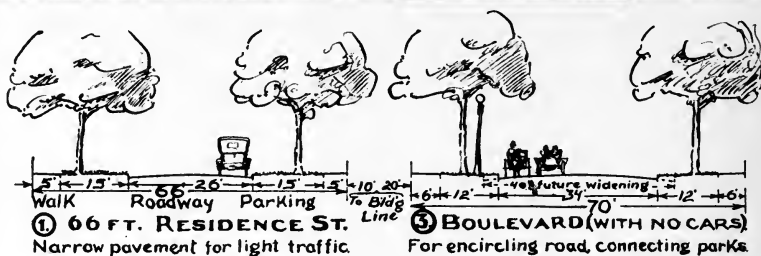
Town Planning For Dover, N. J.

I. THE TOWN PLAN.

Two hundred years ago, when Dover was first settled (in 1713), and one hundred years ago, when its iron industry was attaining importance, and even fifty years ago, when the manufacturing development began to be felt, no plan was made for the growth of the town. One main street ran through the valley, and on this level floor a beginning was made of a gridiron system. In one place this was carried over the surrounding hillside, but for the most part the streets were but the continuation of lanes running straight up the steepest hills, with few or no cross streets and absolutely no means of access by easy gradients along the slope. No land was set aside for public buildings or parks—not even an open square. The explanation and excuse was that “No one expected Dover to become a city.” But today it has already outgrown this hap-hazard congeries of by-ways, and continued growth in the future is reasonably certain. Its increase of twenty-five per cent. in the past decade, somewhat above the average for towns of its class may be taken as a gage for the decades to come. Now is the time to direct this growth so that a convenient, healthful, and beautiful town may result,—in short to adopt and carry out a town plan.

The town plan will concern itself with Dover's physical needs, treating them as component parts of an organic whole,—its waterways and railroads, its street system and public services, its administrative, educational, and recreative centres, and lastly the control of private property. The effect of the rugged topography must be considered; adequate provision must be made for sanitation and health; ease of communication and the economic subdivision of land into lots must be secured. Recreation facilities must be brought to the point where they will serve all the people: school playgrounds for the little children, playfields for the older ones, woods and view parks, and the shores of ponds will need to be acquired to gradually form a balanced system. Compared with other progressive small cities Dover is still very deficient in park acreage, as is shown in Table I.

An estimate of the proposed park acreage shown on the general plan in the front of this report is given in Table II.



PROPOSED CROSS-SECTIONS FOR STREETS AND BOULEVARDS

TABLE I.
COMPARATIVE PARK STATISTICS, 1910.
Fifteen of the Smaller Cities and Dover, N. J.

City	Population 1910	Park Acreage	Pop. per Acre	Maintenance		
				per Annum	per Acre	per Capita
Niagara Falls, N. Y....	30,445	412	74	\$34,200	\$83.01	\$1.12
La Crosse, Wis.....	30,417	400	76	4,141	10.35	.14
Colorado Springs, Col.	29,078	2,566	11	23,000	8.94	.79
Waltham, Mass.....	27,854	137	203	2,100	15.33	.08
Nashua, N. H.....	26,005	210	124	400	1.90	.02
Elgin, Ill.....	25,976	237	110	3,000	12.61	.12
Madison, Wis.....	25,531	150	170	38,736	258.26	1.52
Mansfield, O.....	20,768	100	208	400	4.00	.02
East Liverpool, O.....	20,387	101	202	2,400	23.76	.12
Denison, Tex.....	13,632	146	93	600	4.11	.04
Marquette, Mich.....	11,503	210	55	3,247	15.46	.28
Menominee, Mich.....	10,507	83	127	1,542	18.57	.15
Mankato, Minn.....	10,365	80	130	4,700	61.25	.45
Keene, N. H.....	10,068	221	46	278	1.27	.03
Ware, Mass.....	8,774	92	95	6,000	65.22	.68
Average			115		38.94	.37
Dover, N. J., 1910....	7,468	0	0
Dover, N. J., 1913....	8,065	33	244	1,000	30.30	.12

TABLE II.
DOVER,—PARK STATISTICS.

	Acres
I. Present Parks, total area	32.8
Hurd Park, donated in 1911	9.3
Reservoir Park, control assumed in 1912	23.5
II. Proposed Parks—for immediate acquirement	37.2
Rockaway River	5.0
Ford Pond	10.0
Black and Goodale Ponds	10.0
Dover Pond	5.0
Moller's Rock	1.0
East Side Playground	1.2
Civic Centre and Basin	5.0
III. Proposed Parks—subsequent additions	90.0
Eastern Rocky Spur, Section 1.....	18.0
Eastern Rocky Spur, Section 2.....	20.0
Reservoir Park—eastern extension.....	7.0
Reservoir Park—western extension.....	20.0
Playfield	10.0
Additional Playgrounds—not shown	15.0
Total	160.0



A DOVER STREET WITH NO THROUGH TRAFFIC

Curbs are much too far apart, forming a barren, straggling roadway, and leaving quite inadequate space for trees



A RESIDENTIAL STREET IN ROLAND PARK, BALTIMORE

Narrow roadway for light traffic, with trees in parking strip and houses set well back

On the basis of 115 people per acre of parks Dover should now have seventy acres (Groups I and II), and by 1950, with an estimated population of 18,500, it should have acquired ninety acres more (Group III).

2. THE SURVEY.

As a basis for comprehensive town planning certain surveys are essential. These should include a topographic survey, a study of social conditions, and statistics of traffic, building conditions, etc. In the topographic survey there should be gathered on a standard map of the town, at a scale of two hundred feet to the inch, data showing the location of all waterways, railways, streets, curbs, property lines, buildings and other structures, grades, contour lines at five foot intervals, and established reference points. If the accuracy of the survey warrants it, a system of co-ordinates should be used, starting from some permanent base, to which all points should be referred.

This standard map may be completed in three stages, first showing blocks and lots, city property, railroads, and waterways only. If this map is then reproduced on tracing cloth, upon Sheet No. 2 may be shown houses, lot dimensions, street numbers, etc., and upon Sheet No. 3 contours and other topography. Prints may then be made from any of the three maps to order for the different town departments or for sale. The value of such a standard map kept up to date will quickly repay its cost. In the assessors' department it will be of particular service in locating hitherto untaxed property, each lot and piece in each block being numbered and assessed, thereby covering the entire area of the town. Further maps showing the range in land values, the distribution of population, and the zones of commercial and industrial property, railroads, residential sections, and rural land about Dover would be useful, especially if they could be redrawn every year or two, thus indicating graphically the growth of the town.

The social survey should be gradually compiled as opportunity offers, utilizing the census and other sources where possible. It should embrace statistics of population, education, health, housing, industrial conditions, charities, and crime. Such a thorough study of social conditions will furnish an exact knowledge of the needs of the community not otherwise obtainable, and in the course of time will constitute a reliable index of the extent of the town's progress.

3. LEGISLATION.

A number of proposals embodied in this report can be carried out at once by the proper authorities in each instance, but in most cases



MORRIS CANAL ABOVE THE TOWN

This beautiful stretch might well be kept as a lake if the canal is abandoned



A BROOK ROAD IN WEST MEDFORD, MASS.

The most economical and attractive method of treating a small stream in a residential community

broader powers will greatly facilitate speedy action. This is to a large extent a matter of legislative enactment or charter amendment, which should provide for the establishment of a plan or improvement commission and endow it with power to put into effect an authoritative plan of the town and its vicinity, covering the existing and proposed locations of streets, parks, and other public works, and the control of private property. No damages should be allowed for structures erected in contravention of the plan, and no plan should be permitted to be filed unless it conforms to it. Among the recent enactments covering these points in various cities and states that of Pennsylvania for cities of the Third Class is in many ways a model one and is given herewith in full (see page 31).

Another bar to town development has been the method of payment for improvements by general tax or bonds issued as a general lien upon the town, which must thus constantly draw on its credit to the enhancement of private property values at its expense. The town's debt soon becomes large and construction ceases. In many instances improvements have been desired by practically all those whose property would be benefited, and they would gladly share the expense, but there has been no way of identifying the cost and the benefit, that is, making the property benefited pay the cost of the improvement. This can best be brought about by means of special assessments, which not only place the cost where it belongs, but by spreading the payments over a period of years reduce the annual expense to a very low figure. Wherever this system is in force very extensive improvements have been made, until the whole city has been paved, sidewalks laid, trees planted, and in many instances much or all of the park system financed. The success of Kansas City in this respect is noted, \$11,000,000 having been raised in seventeen years by special assessments for parks,—yet the people there are today demanding even more. Denver has acquired an extensive park system and civic centre and completed many miles of street opening and paving by means of special assessments, under the provisions of its charter, extracts from which are given herewith (see page 33).

4. STREET SYSTEM.

The layout of the streets of a town is the most important single element in its plan, as upon it depends the ease of communication,—both in regard to directness, gradient, and congestion,—the size of blocks, depth of lots, and to a considerable extent the general character of entire neighborhoods. The primary function of streets is to provide avenues of circulation for traffic, and this is most economically effected if the traffic is concentrated upon certain main thorough-



ROCKAWAY RIVER IN THE TOWN
An attractive bridge and elm in commonplace surroundings



RIVER PEGNITZ IN NUREMBERG, GERMANY
Artistic river bank treatment in a closely built up section, with a wading beach and shrubbery planting

fares, which should form a network of communication along easy grades with adequate width and efficient paving. The remaining streets, which constitute the vast majority, can then be treated as purely local, with the corresponding economy in first cost and upkeep. This determination of width and its subdivision into walks, parking, and roadway should be designed to serve exactly the needs of each case. The principal types of cross-sections of streets suited to Dover are indicated on the accompanying diagram (page 8).

In platting new subdivisions lots smaller than forty or fifty by one hundred feet should be avoided, wherever land values will permit. Blocks should as a rule not be over six hundred feet long, to obviate undue detouring. In many cases however the difference in level on a side hill will be such that a cross street would be too steep to be of service and may be replaced by a foot-path alone. Wherever these now occur connecting different sections by short-cuts they should if possible be preserved. With a grass or shrubbery strip on either side, they will become a valuable asset in the town's attractiveness.

The relative merits of straight and curved streets depend to a large extent upon their use and location. Business streets and streets upon level ground should as a rule not curve to any great degree; but residence streets on rough topography such as occurs at Dover should be laid out to conform to the steep slopes, avoiding heavy grades and deep cuts and fills. The resulting picturesque quality of its street scenes should be one of its most marked elements of beauty. Yet hitherto hardly any streets have been so laid out, but they usually scale hills without regard to topographical control. In Dover, gradient should be a determining factor, for outside of the few routes traversing the narrow valley nearly every road must climb steep hillsides to gain access to the upper levels.

The heaviest traffic will however continue to be through the valley along Blackwell Street, though, with the two car tracks, its width of seventy-five feet over all and forty-five feet for the roadway is not quite sufficient to permit the easy flow of traffic which would be attainable if the pavement were but five or ten feet wider. As the street is now laid out, there is not room for a vehicle to pass another vehicle standing at the curb without turning out upon the car tracks (see diagram, page 8). Widening the street by the small amount desired appears however hardly possible through the business district; but with the laying of a smooth pavement the difficulty will be minimized, and further relief may ultimately be given by means of a new by-pass road, which will be discussed later. The other county road, Clinton Street, is adequate in width, as are most of those streets designated secondary highways on the general plan accompanying this report. Upon the



ROCKAWAY RIVER ABOVE THE TOWN

To preserve its beauty the banks at least should be in public ownership



A BROOK IN A DENVER PARK

This wading place is suggestive for Hurd Park

remaining local streets the case is exactly the reverse, for the total width is frequently sixty to sixty-six feet, and the curbs are set far apart, usually but eight feet from the property line, leaving a wide, dusty space of thirty to forty feet for the roadway. This should in every case be narrowed to twenty-four or twenty-six feet, as this will still allow ample room either for one vehicle to pass between two others standing at opposite curbs or for passing on either side of a slowly moving vehicle in the centre. With the decrease in area a much more durable water-proof pavement can be laid in place of the alternately dusty and muddy macadam. Furthermore if the sidewalks are placed next to the property line a broad parking strip will be left, with adequate space for trees, between the walk and the curb.

5. STREET TREATMENT.

Upon the condition of the streets and their furnishing depends to a large extent the convenience and attractive appearance of the town. The paving is of first importance and should be selected according to the traffic the street is apt to carry. Blackwell Street, which is a county road, should probably be surfaced with wood block or bitulithic pavement, but on all other roads the traffic does not require such an expensive surface. There are three alternative pavements which are particularly serviceable on secondary streets. Under modern methods concrete coated with asphalt is being laid very cheaply, as low as ninety cents per square yard. This combines the advantage of a permanent base with a cheap wearing surface, which may be renewed every two or three years when necessary at a few cents per square yard. Furthermore the concrete may be molded into a slightly depressed gutter and curb face, obviating the added expense of separate curbing. Macadam penetrated with asphalt or tar after the upper stone is laid is a cheap form of bituminous pavement adapted to moderate traffic and may be laid as low as \$1.05 per square yard. It will require resurfacing very seldom under such conditions. Either of these two types are water-proof and dry, requiring a certain amount of cleaning to prevent their becoming dusty. Ordinary macadam, costing about one dollar per square yard, treated each year with a dust preventive, will maintain a dustless surface with little or no attention, but is not as durable as the other two.

The trees on the public highways in Dover are under the care of the Shade Tree Commission. Besides systematic maintenance, replanting should be carried on where gaps occur, and all new streets should be set with trees at a uniform distance from the curb and from each other. The latter distance for most species should be forty to fifty



THE UNSPOILED SHORES OF BLACK POND

This beautiful sheet of water should be enclosed by a park strip and a roadway providing attractive frontages



LAKE OF THE ISLES PARK, MINNEAPOLIS
Effective treatment of a pond in a residential section

feet, which is much greater than common practice, in order to allow space for symmetrical growth. As a general rule each street should be planted throughout, or at least for several blocks, with a single species of tree to secure harmony in effect. Certain varieties are best adapted to wide avenues, others to narrow local roads, but the whole list of trees which are suited and will thrive on streets is a short one.

Street lights should be artistically treated for their effect both at night and by day. Along Blackwell Street the merchants might well consider installing ornamental fixtures upon the trolley poles, using tungsten lamps in large globes. Street signs at intersections should also be attached to the same poles, and to the separate lighting poles on other streets.

Encroachments upon the sidewalk on Blackwell Street and elsewhere should be prohibited, or else a means found by which they may be leased under a yearly permit as concessions or taxed. As it is not desired to encourage such encroachment, a reasonable rate would be the same amount per square foot as the current taxes per running foot. No permit should ever be issued beyond a certain distance: on Blackwell Street this should be less than one foot, as the street is already too narrow. No permanent structures should be allowed to encroach at all, thus leaving the way open to clear the sidewalks at any time.

The matter of grade crossings in Dover is a serious one. Three dangerous ones still exist on the Lackawanna Railroad, while the Central Railroad of New Jersey crosses no less than eight streets at grade. The relatively few trains on the latter road, however, and their slow speed through the town make these crossings less serious. On the Lackawanna the two worst crossings, Orchard and Morris Streets, are at the bottom of hills, making them exceedingly dangerous, but at the same time greatly facilitating their removal by overhead bridges. If at the same time the railroad is swung farther to the south, as is now being talked of, in order to relieve the sharp turn to the west, there need be little change in grades.

6. CANAL BOULEVARD.

A radical change in Dover's plan may be brought about if the Morris Canal is abandoned. This canal, unlike others, was constructed to climb mountains by means of inclined planes, up which the boats are dragged in a cradle on rails,—the total rise between Newark and the summit at Lake Hopatcong being nearly 1,000 feet. Such a canal can apparently never be run to successfully compete with modern railroad transportation, and has for some time been practically unused. It is still too early to be certain what the Canal Investigation Commission will recommend, but it is to be hoped that the canal location will

continue to be dedicated to a public use. The most favorably considered proposal contemplates widening it to form a state boulevard, running by easy grades through the hills, directly across the northern part of New Jersey. The diagram on page 8 shows a cross-section for such a highway, with provision for fast and slow traffic and inter-urban cars. This type of development would however be difficult and unnecessary for the short distance in the heart of Dover, and in the present town plan it is proposed to divert it at the base of Reservoir Hill by a new boulevard seventy feet wide over the Lackawanna tracks, through the woods on the little hill overlooking Dover Pond, over the Jersey Central tracks, which are here in deep cut, to Clinton Street; thence by McFarland Street, widening to seventy feet, past the proposed town centres and rejoining the old canal to the east, where the full width of one hundred and fifty feet is resumed. Along the "flat" towards Wharton is a delightful stretch of the canal, with beautiful tree growth, which might be preserved in the parking beside the river. The old canal bed in the section between the Lackawanna Railroad and Sussex Street might well be thrown into a local street. The treatment of the section east of Sussex Street is discussed later in connection with the town centre. Farther east towards Rockaway is an unusually long stretch without a lock, which if preserved would be suited for boating.

In the laying out of a boulevard beyond the eastern town limits a cut-off should pass over the low ridge, avoiding the long detour the canal at present makes around it. This boulevard, whether a part of a state highway or not, will form a very valuable connection, not only opening up new territory well suited for building and forming an attractive pleasure drive, but, of far more importance, providing an entirely new through route for the heavy automobile traffic that already so congests Blackwell Street. This route will have no grade crossings nor steep slopes and will avoid the bad acute angle turn on the down grade at the eastern approach to the town. This point, with its three bridges, car track, and the railroad crossing just beyond, is a constant menace to life and should be removed, whether the boulevard is opened or not, by constructing a new road over the canal and Jersey Central tracks some five hundred feet to the north.

7. NEW HIGHWAYS.

Connecting the wooded hill parks to the east and west of the town on the south side, the existing streets should be widened and extended to form a southern boulevard seventy feet wide. Its roadway should be surfaced with a smooth pavement; and the trees should be planted and cared for by the Commission. By roads constructed through the

proposed parks the boulevard may be continued so as to form with the Canal Boulevard an almost complete circuit of the town. Increased values along its route should more than repay the cost of opening the boulevard, which will form an essential link in the park system.

Among other possible highway improvements should be noted the feasibility of a new route to the south-west from Morris Street near the railroad past Ford Pond, through Academy Street widened and extended along the hillside, to a junction with Prospect Avenue near the top of the divide. Such a cutting through would effect several gains, certain of which might be obtained by the opening of a portion only. It would afford a low grade route to the upper Morris Street section by way of First or Second Street, neither of which has at present any outlet towards the town. It would open up both these streets and Academy Street, all of which can now be reached only by going up a hill and then descending again sharply. It would provide better approaches to the South Side School, which is now in the same pocket. It would bring a low grade route to points far up the steep slopes of German and Grant Streets, and finally it would afford an improved gradient to all the territory to the south-west. It is realized however that its complete acquisition may prove difficult and expensive, and it is brought forward at this time rather to assure that nothing shall be done in contravention of such a plan and to direct such partial opening as may now be practicable along permanent lines, so that each bit may form a part of the greater scheme.

In the north-west section it is very desirable that a connecting highway be opened across the two railroads, the river, and the canal towards the "flat" and Wharton. At present for a distance of two miles above Sussex Street there is no bridge for public use, except two frail foot-bridges. With the continued growth in both districts and the probable establishment of new factories along the railroad rights-of-way, such a connection is becoming imperative. Its precise location will depend somewhat on local circumstances, but an extension of Racine Street would form the most direct route.

Other new highways should be located so as to afford easy access to new districts as they are opened up. Since these are likely to spread over relatively flat land in the various brook valleys near the town it is especially desirable that provision for sewer locations and surface drainage be made by platting a road on either side of the brook bed, thus guarding against fouling of the water and any possible flood. The added attractiveness of such a treatment will at the same time more than compensate for the increase in width over an ordinary street, about one hundred feet between property lines being sufficient (see diagram, page 8).



FORD POND, IN THE HEART OF THE TOWN
A suitable site for a South Side playground



A PLAYGROUND IN USE, WHEELING, W. VA.
Play for hundreds on a small area, with a few simple pieces of apparatus, and efficient leadership

8. RIVERS AND PONDS.

The use of Rockaway River by Jersey City for a water supply ensures to a certain extent that it will be kept in a sanitary condition, but it can never be thoroughly clean unless its banks at least are in public control. In places where improvements have encroached to its very edge this may mean simply the bed of the stream and a few feet on either side, but elsewhere a strip wide enough for a path and shrubbery planting should be acquired, and on the outskirts where new territory is to be opened up a border road should be platted. The contrast between the European method of treating a river in the cities and the usual American way is very pronounced, for there the rule is to present the best side to the river, often with a bordering road and architecturally treated embankments, while in the United States—and Dover is no exception—the worst side is turned toward the river,—the dump heap and railroad fill for its embankment, thereby depreciating land values instead of enhancing them, as is possible where the river is recognized to be an asset.

The four ponds within the town limits should also be surrounded by public property. In their case however more liberal takings can be made, so that they may form very attractive portions of the park systems. Ford Pond, lying in the heart of the town, and at present the water supply of the Lackawanna Railroad, may well continue to furnish water to the railroad, but it should be drawn down two or three feet and the edges excavated and the shores filled so as to eliminate the marsh at its upper end. Along one side should run the highway to the south-west. At the south end property should be acquired as far as Academy Street, to provide a playground in connection with the South Side School, which will be discussed in more detail under the head of Playgrounds. The present natural tree growth should be preserved and reinforced, and shrubbery set out, with walks and seats to make it available for the general use which its central location ensures for it.

Dover Pond is more closely hemmed in by the rolling-mill and the railroads, but its banks may be improved in connection with the river-bank development and the north-west side may be made a very attractive wooded park when the proposed boulevard is opened along the hill, thus rendering it very accessible. Black Pond and its smaller neighbor, Goodale Pond, should be enclosed in a park serving the north side community, which is expanding rapidly in this direction. Sufficient space for a playground is desirable here also. The cutting of ice may be permitted to continue on Black Pond until the demand for its discontinuance becomes emphatic. The argument for river parking applies with equal force to these ponds, for unless they are girdled by parks their beauty will inevitably be lost to the public, and each little yard backing upon them will be apt to become an eye-sore and a positive detriment to the neighborhood.

9. WOODS AND VIEW PARKS.

Of all the topographical characteristics of Dover the most marked are its steep hills, sloping up from the town so sharply that in places they defy any building upon them for all time. These otherwise almost worthless ridges and spurs should form literally the back-bone of Dover's park system. On the west a good beginning has already been made in the assumption by the Shade Tree Commission of the control of the twenty-three acres acquired for the reservoir sites. Unfortunately the chestnut blight has made heavy ravages in the woods here as well as everywhere else in northern New Jersey, but a considerable growth of other trees still remains, which may gradually be developed by planting into a heavy forest, provided however that the all too frequent ground fires can be prevented. Near the summit of the hill vistas should be left open, thereby commanding views over the town and surrounding hills. Ultimately this park should be considerably extended, taking all the steepest slopes unfit for building, together with a larger section of forest to the west.

To the east the long ridge above Morris Street terminates in an abrupt rocky point, where even trees find it hard to secure a foothold. This rugged spur and the crest of the ridge back of it should also be acquired as a view park and connected with the town at its eastern base and at the high point on Morris Street. At the northern extremity of this eastern ridge and nearer yet to the heart of the town, Moller's Rock towers directly above it, commanding extensive views. This should be secured by a small reservation including the rock and the land part way down the slope. On the north side of the town the ridges are less abrupt, and the highest portion is already practically included in the extensive holdings of cemetery lands, thus insuring its being kept open. Black Pond Park will be the principal public open space in this district.

10. THE PLAYFIELD.

Dover with its industrial population is already in need of facilities for more intensive recreation. This may in part be provided by establishing a large playfield, capable of ultimate development as a complete recreation centre, with field house, ball fields, and space for other games. At present one or two vacant blocks are availed of in the town, but in a few years, at the very time when their use is becoming greatest, these will doubtless be withdrawn for building purposes. The location of a permanent playfield should be reasonably central and accessible from any portion of the town, but owing to the acreage involved it cannot be placed on expensive land. These conditions are already met by Hurd Park, but, as the plan adopted for its improvement calls for the retention and enlargement of the brook meandering

through it, little room will be left for more than a children's play-lawn. Directly across the canal is a suitable tract of rather low land bordering Rockaway River, which should prove inexpensive, as it is occasionally flooded and is therefore not suited for building. As a playfield it might however be gradually filled above the level of any ordinary high water with a layer of cinders, which may be obtained very cheaply in that locality. Floods at intervals of three or four years would not seriously interfere with its use as a playground. For a considerable period its only improvement need be simply the laying out of ball fields for the men and older boys, though later a more intensive development will probably be demanded.

II. PLAYGROUNDS.

The most vitally needed single improvement in Dover today is the provision of playgrounds for the small children. These can best be provided in connection with the schools, there being many reasons for this. The children are already accustomed to going to the schools; the sites are distributed through the town at about the proper distances for playgrounds; the buildings may be utilized as field houses, saving the expense of duplication; the playgrounds may be used at recess, and after school hours during term time, as well as throughout the day in vacations. The playground supervisors may very advantageously and economically be teachers in the schools, serving as supervisors for successive short periods. Too much stress cannot be laid upon the importance of supervision; for without an instructor the grounds are apt to become rather a nuisance than a benefit. But placed under competent management a relatively small piece of ground may be made to serve a large number of children, who will be attracted by the presence of the instructor and the active play which he or she induces. Over all there should be a Director of Recreation, who may well be also the Physical Director in the schools. This close interlocking of outdoor play and indoor exercise should prove a very effective solution of this vital problem.

The first step must be the securing of sufficient land about each school house, in no case less than an acre in one undivided piece. At the South Side School there is ample room on the relatively level land across Academy Street, which may be acquired in connection with the park about Ford Pond. At the East Side School there is over an acre of vacant land directly back of the school as far as the Canal, which may be joined to the school yard by vacating the short cross street between. At the North Side School on the other hand no space is available, but a small play lawn might be provided near the Canal Basin, and ample room may be made available in the park about Black Pond, where a field house might be erected. The proposed playfield

also will be reasonably accessible by means of a foot-bridge, and a part of this may be set aside for the smaller children. At the outset little or no apparatus need be put up, but eventually there should be a few swings, see-saws, giant stride, sand boxes, slide, etc., with courts for basket-ball, "indoor base-ball," volley-ball, and other playground games. But of far more importance will be the placing of the playgrounds in charge of competent instructors, for it has been clearly demonstrated that the one essential on a playground is the instructor.

12. THE TOWN CENTRE.

Dover has at the present moment an opportunity unparalleled among towns to create a serviceable and effective town centre, about which its public and quasi-public buildings may in the future be grouped. There is need now of sites for a town hall, with a lock-up, a library, and increased school accommodation. The town hall and library demand central locations accessible to all, yet hardly upon the most expensive land. The best solution of the complicated school problem appears to be not a new grammar school on the South Side on Randolph Avenue, far to one side of the area from which the children would come and necessitating climbing a steep hill for most of them, nor the enlargement of any of the present school-houses, which under the state law would necessitate very expensive rebuilding, but a new modern high and vocational school building at some central point, subsequently turning the old high school rooms in the North Side School over to grammar classes. Under this scheme a slight redistricting would relieve the pressure all over the town.

The advantages of grouping public buildings are obvious though as yet seldom accomplished in this country, except on paper. From such grouping there will result great enhancement of architectural effect and the possibility of providing adequate space for its appreciation, coupled with a view-point from which the buildings will not appear in sharp perspective along a relatively narrow street, but as the central elements of a broad composition. By far the best site available at a reasonable figure for such a town centre in Dover is part or all of the block bounded by Sussex, McFarland, and Foundry Streets, including with it the land about the old Canal Basin. Whether the canal is abandoned or not, this section may easily be kept filled with water at all times, as it is situated but a few hundred feet beyond the river dam furnishing the supply. It is the possibility to create here a small park about the basin, flanked on one side by public buildings, which constitutes Dover's golden opportunity to produce an unusually attractive focus for its activities. The accompanying plan indicates a possible arrangement, with the town hall on Sussex Street and the library or other public building on McFarland Street. A third build-

ing site rounding out the group might be utilized on the south half of the same block. In the north-east corner a play lawn of some size might be provided, and subsequently enlarged by acquiring the corner lot on Hudson Street. Lying as it does in the heart of the town, paths and a foot-bridge or two would render this bit of green park accessible to all the people.

13. BUILDING CONTROL.

The third great division of the town plan, private property, is controlled in many ways by the layout and width of streets, size and aspect of lots, and more specifically by certain laws and ordinances covering particular features. Among these the establishment of building lines preserving an open strip next to the street is of particular value in residential districts. The character of the street is thereby perpetuated, as no single building is allowed to abut on the sidewalks and interrupt the continuous lawns. Furthermore if the street should at any time need to be widened this can be done without the heavy expense of tearing down buildings. On Blackwell Street a new building line might be established five or ten feet back of the present one, with a view to ultimately widening the street, after practically all the frontages had been rebuilt on the new line. This was the method used in widening Chestnut Street in Philadelphia, but may prove difficult to apply in Dover owing to the long period before any extensive rebuilding will normally take place.

The outward appearance of buildings cannot be regulated to any extent, though it may be possible to raise architectural standards through example and persuasion. Building heights on the other hand should be limited absolutely while there are still no unduly tall structures in Dover, by a regulation based on the various factors governing the desirable height. In such a regulation, cubage (i. e. volume), which controls the congestion in the street, and the average height of the front elevation, which controls the amount of light and air, should vary directly as the width of the street, and the tower building should be encouraged without however the abuse of its unrestricted adoption. The following regulation is suggested:—

Height Regulation for Fire-Proof Commercial Buildings.

A building may occupy its entire lot to a height not exceeding three-fourths of the width of the principal street upon which it faces, and not exceeding in any case seventy-five feet. Above this height the cubage of the building shall not exceed one-fourth of such height multiplied by the area of the lot.

Further regulations governing the method of measurement, interior courts, cornices, etc., should also be included as parts of a carefully drawn building code adapted to local conditions.

Commercial buildings and tenements are in Europe limited to definitely prescribed zones, but it is a question whether much can be done in this country along this line at present. Such a zone system if ultimately established would however be a great protection against depreciation through undesirable building; and by fixing the use of land over a period of years it would create higher real values.

14. HOUSING.

While the present town planning report does not pretend an exhaustive study of the housing problem certain aspects should be briefly noted. As a negative measure of control, the state Tenement House Law if thoroughly enforced should be an effectual preventive against the worst slum conditions, as they exist in other somewhat larger towns. But much of a more positive nature should be done to improve home conditions in Dover. Tenements are unnecessary in a town of its size. They have been proven detrimental to health and citizenship founded upon the home and should be discouraged absolutely. No house should occupy more than forty per cent. of its lot, and, in the new section at least, the number of houses per acre should be much less, not over ten or twelve. The best type for the lowest paid class of workmen will probably be the two-family house, whether of the semi-detached type, the families living side by side, or of the "duplex" type, with one over the other. In either class each family should have its own entrances and front and back yards. If the houses are not permitted closer than fifteen feet all rooms may be light and well ventilated.

In the planning of new residential sections the principles underlying the garden suburbs of England should be applied as far as practical. Possibly in the less expensive districts homestead aid can be modified to finance co-partnership undertakings, through which durable, attractive homes may be provided at the least cost and with due safeguards to the workmen's interests. The opportunity to garden on a small tract can best be provided by allotments, which may be rented from year to year, thus avoiding the responsibility of permanently holding the land which the resident would otherwise have to assume. Such gardening affords not only a healthful change from indoor work, but also will assist materially in eking out the workman's income.

The town can exercise direct control for improved housing by requiring that all plats filed shall conform to modern town planning principles: certain main thoroughfares distinguished sharply from the majority of residential streets, all laid out to fit the topography, with low gradients along the hillsides, and the added beauty of curving streets and park reservations along streams. In this way these residential districts may be made among the most attractive features of the Dover of the future.



Appendix.

AUTHORITATIVE PLAN COMMISSION, PENNSYLVANIA ACT.

Adopted July 16th, 1913.

Sec. 1. That an additional executive department in the government of cities of the third class is hereby created, to be known as the Department of City Planning, which shall be in charge of a City Planning Commission, consisting of five persons to be appointed by the Mayor and Councils. In the first instance, one member of said Commission shall be appointed for one year, one member for two years, one member for three years, one member for four years and one member for five years, and annually thereafter a member of said Commission shall be appointed for a term of five years. An appointment to fill a casual vacancy shall be only for the unexpired portion of the term. All members of the said Commission shall reside within the zone of jurisdiction of said Commission, as hereinafter defined. They may make and alter rules and regulations for their own organization and procedure, consistent with the ordinances of the city and the laws of the commonwealth. They shall serve without compensation and make annually to the Mayor and Councils a report of their transactions. They may employ engineers and other persons whose salaries and wages and other necessary expenses of the Commission shall be provided for through proper appropriation by Councils.

Sec. 2. The clerks of Councils shall, upon introduction, furnish to the City Planning Commission, for its consideration, a copy of all ordinances and bills and all amendments thereto relating to the location of any public building of the city, and to the location, extension, widening, narrowing, enlargement, ornamentation and parking of any street, boulevard, parkway, park, playground or other public ground, and to the relocation, curtailment, changes of use, or any other alteration of the city plan with relation to any of the same, and to the location of any bridge, tunnel and subway, or any surface, underground or elevated railway. The said Commission shall have the power to disapprove any of the said ordinances, bills or amendments, which disapproval, however, must be communicated to Councils in writing within ten days from the introduction of said ordinances, but such disapproval shall not operate as a veto.

Sec. 3. The City Planning Commission may make, or cause to be made, and lay before Councils, and, at its discretion, cause to be published maps of the city or any portion thereof, including territory extending three miles beyond the city limits, showing the streets and highways and other natural and artificial features, and also locations proposed by it for any new public buildings, civic centre, street, parkway, park, playground or any other public ground or public improvement, or any widening, extension or relocation of the same, or any change in the city plan, by it deemed advisable, and it may make recommendations to Councils from time to time, concerning any such matters and things aforesaid, for action by Councils thereto, and, in so doing, have regard for the present conditions and future needs and growth of the city, and the distribution and relative location of all the principal and other streets and railways, waterways and all other means of public travel and business communications, as well as the distribution and relative location of all public buildings, public grounds and open spaces devoted to public use.

Sec. 4. The City Planning Commission may make recommendations to any public authorities, or any corporations or individuals, in said cities, with reference to the location of any buildings, structures, or works to be erected or constructed by them.

Sec. 5. All plans, plots or re-plots of lands laid out in building lots, and the streets, alleys or other portions of the same intended to be dedicated to public use, or for the use of purchasers or owners of lots fronting thereon or adjacent thereto, and located within the city limits, or for a distance of three miles outside thereof, shall be submitted to the City Planning Commission and approved by it before it shall be recorded. And it shall be unlawful to receive or record such plan in any public office unless the same shall bear thereon, by endorsement or otherwise, the approval of the City Planning Commission. The disapproval of any such plan by the City Planning Commission shall be deemed a refusal of the proposed dedication shown thereon. The approval of the Commission shall be deemed an acceptance of the proposed dedication, but shall not impose any duty upon the city concerning the maintenance or improvement of any such dedicated parts, until the proper authorities of the city shall have made actual appropriations of the same by entry, use or improvement. No sewer, water or gas mains or pipes or other improvements shall be voted or made within the area under the jurisdiction of said Commission for the use of any such purchasers or owners, nor shall any permit for connection with or other use of any such improvement existing, or for any other reason made, be given to any such purchasers or owners until such plan is approved. Where the jurisdictional limits of three miles outside of the city limits, as provided in this section, may conflict with the

zone of similar character connected with another city of the third class, the jurisdiction of said Commission shall extend only to the point equidistant between the city limits and the limits of said municipality.

Sec. 6. It shall be proper for said cities to provide by ordinance for the exercise of all rights and powers herein conferred upon the City Planning Commission by a Park Commission or kindred municipal Bureau or Commission authorized under existing laws. And no person holding office under the government of any of said cities, except the Mayor, members of councils or Commissioners, shall be ineligible to serve as a member of a City Planning Commission.

Sec. 7. All acts and parts of acts inconsistent with this act are repealed.

SPECIAL ASSESSMENTS,—DENVER ACT.

Extracts from Charter, Adopted March 29th, 1904.

ARTICLE XI. **Public Improvements.** Sec. 270. The city and county shall have power to contract for and make local improvements, and to assess the cost thereof wholly or in part upon the property especially benefited, . . . Sec. 272. The board (of Public Works) may, in districts to be prescribed by the board, order the paving, grading, curbing, guttering, surfacing, and the construction of sidewalks upon any street or alley, . . . Provided, that no paving, unless a petition therefor has been filed, shall be ordered if the amount to be assessed therefor, upon any piece of real estate, shall exceed one-half its valuation for assessment for general taxes . . . And, Provided, further, that if a remonstrance against the making of the improvements proposed shall be filed by the owners of a majority of the frontage of the real estate to be assessed, the improvements shall not be made, . . .

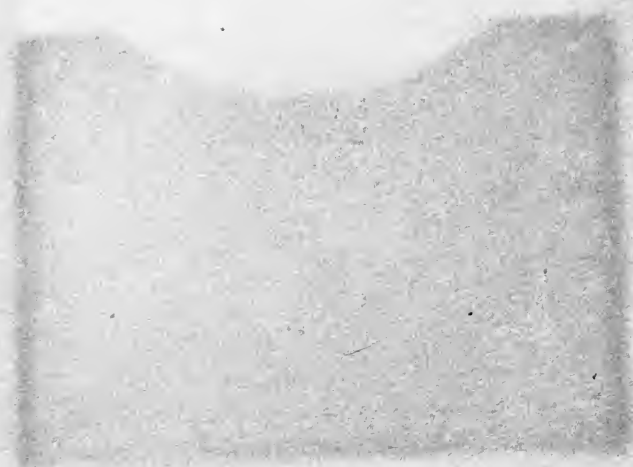
Assessment and Payment. Sec. 298. Upon completion of any local improvement, the board shall prepare a statement, showing the whole cost of the improvement, including not to exceed six per cent. additional for costs of collection and other incidentals; and apportioning the same upon each lot or tract of land to be assessed for the same, . . . Sec. 300. The board, sitting as a board of equalization, shall hear and determine all complaints and objections, and may recommend any modification of the apportionments; and the council shall thereupon, by ordinance, assess the cost of said improvements against all the real estate in said district and against such persons, respectively, in the proportions above mentioned. Sec. 301. All assessments made in pursuance of this article shall be a lien in the several amounts assessed against each lot or tract of land, from the publication of the assessing ordinance, and shall have priority over all other liens except

general taxes. . . . Sec. 304. In case of election to pay in installments, the assessments shall be payable in not less than two nor more than ten equal annual installments of principal; with interest in all cases on the unpaid principal, payable annually at a rate not exceeding six per cent. per annum; . . .

Bonds. Sec. 312. All local improvements shall be paid for in public improvement bonds; the same to be payable only out of the moneys collected on account of the assessments made for said improvements, respectively; . . . Sec. 313. All such bonds shall bear interest at the rate of not more than six per cent. per annum, . . .

Parks. Sec. 323. The city and county is hereby divided into four park districts, . . . Sec. 324. In addition to the powers herein conferred to acquire lands for parks and parkways by the sale of the general bonds of the city and county, it shall be lawful for the park commission, with the approval of the mayor, to acquire parks and parkways in each of the said park districts, the same to be paid for by special assessments . . . Sec. 326. The parks and parkways so established in any such park district, or such part thereof as may be determined, shall be paid for in park bonds, bearing interest at not exceeding six per cent. per annum. . . .





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